

Clean Air Mercury Rule (CAMR)

Trading Program Overview



Office of Air and Radiation

June 2005



CAMR Caps, Timing, and Budgets

- CAMR caps nationwide Hg emissions
 - 2010: 38 tons (based on Hg co-benefit reductions under CAIR)
 - 2018: 15 tons
- Timing
 - Mandatory emission monitoring and reporting for existing units begins on January 1, 2009.
 - Compliance begins on January 1, 2010.
- State and Indian Country Budgets
 - State or Indian Country Hg budgets are binding if a State does not choose to participate in the EPA-run cap and trade program.
 - Within the trading program, the Hg budgets represent the number of allowances that a State receives (and has discretion to allocate).
 - In any particular year, a State participating in the trading program may emit more or less than its budget, since it can buy, sell or bank allowances.
 - States that do not have existing coal-fired power were allocated a State budget of zero tons.
 - New units in these States would have to purchase allowances in order to comply.

Calculation of State Budgets

- State budgets were calculated by deriving *hypothetical* unit allocations and summing these to the State level.
 - Hypothetical unit allocations were derived using a baseline heat input, adjusted for the type of coal burned by the unit.
 - Baseline was average of the three highest years for each unit from 1998-2002.
 - Each unit's baseline was multiplied by 1.0 for bituminous coal, 1.25 for subbituminous, and 3.0 for lignite.
 - Coal usage determined from the 1999 ICR data.
- Hypothetical unit allocations determined by multiplying the Hg cap by the ratio of the unit's adjusted baseline heat input to the total adjusted baseline heat input for all units.

Hg Model Trading Rule: Program Basics

- Applicability
 - Any coal-fired utility unit serving a generator larger than 25 MW that produces electricity for sale.
 - Any cogen unit serving a generator that supplies more than 1/3 of its potential electric output capacity and more than 25 MW electrical output to a utility power distribution system for sale
 - Trading program applicability is consistent with CAIR.
 - Applicability under section 111(b) is slightly different.
- Retired Unit Exemption
 - Begins on day the unit permanently retires; terminated if unit resumes operation.
 - Retired units could continue to hold Hg allowances, and may be allocated allowances depending on State rules.
- Hg Authorized Account Representative for each source
 - Responsible for submission of permit applications, monitoring plans and certification applications, holding and transferring of Hg allowances, and submission of emissions data and compliance certification reports.

Hg Model Trading Rule: Program Basics

- Permits
 - Administered through permitting vehicles established under title V of the CAA and 40 CFR part 70 or 71.
 - Applications for Hg Budget Permits for existing units must be submitted 18 months before January 1, 2010, the beginning of the first control period.
- Allowance Tracking
 - Hg Allowance Tracking System consistent with tracking systems developed for the NO_x SIP Call and Acid Rain Program, and CAIR.
 - Two account types: compliance accounts for Hg Budget sources with one or more units; general accounts for organizations and individuals.
- Transfers can occur between any accounts at any time of year except during EPA's reconciliation process.

Hg Model Trading Rule: Necessary Common Components of State Rules

- State adoption of the model rule would ensure consistency in the following key operational elements of the program among participating states:
 - Allowance management
 - Banking
 - Emissions monitoring (according to 40 CFR Part 75) and reporting
 - Compliance determination
 - Enforcement requirements
- State rule may deviate from the model rule only in the area of allowance allocation methodology.

Hg Model Trading Rule: Allowance Allocations

- Consistent with CAIR, states required to meet state budgets and allocate to sources as they choose.
 - States are free to allocate allowances as they see fit within Hg budget limits and deadlines set by EPA.
- EPA recommends initial allowance allocations based on historic heat input data with adjustments for coal type.
 - Data are available for most affected sources.
 - Updating with allocations on a “modified-output” basis enables allocations to new coal-fired units as they enter service.
- Overview of “modified output” example approach included in the model trading rule
 - New unit “modified output” added to the original existing unit heat input. Allocations made to units in proportion to their share of updated and adjusted (for coal type) heat input.
 - Initial allocation made for first five years of program. Afterwards, annual updating determines allocations for the year five years in advance.

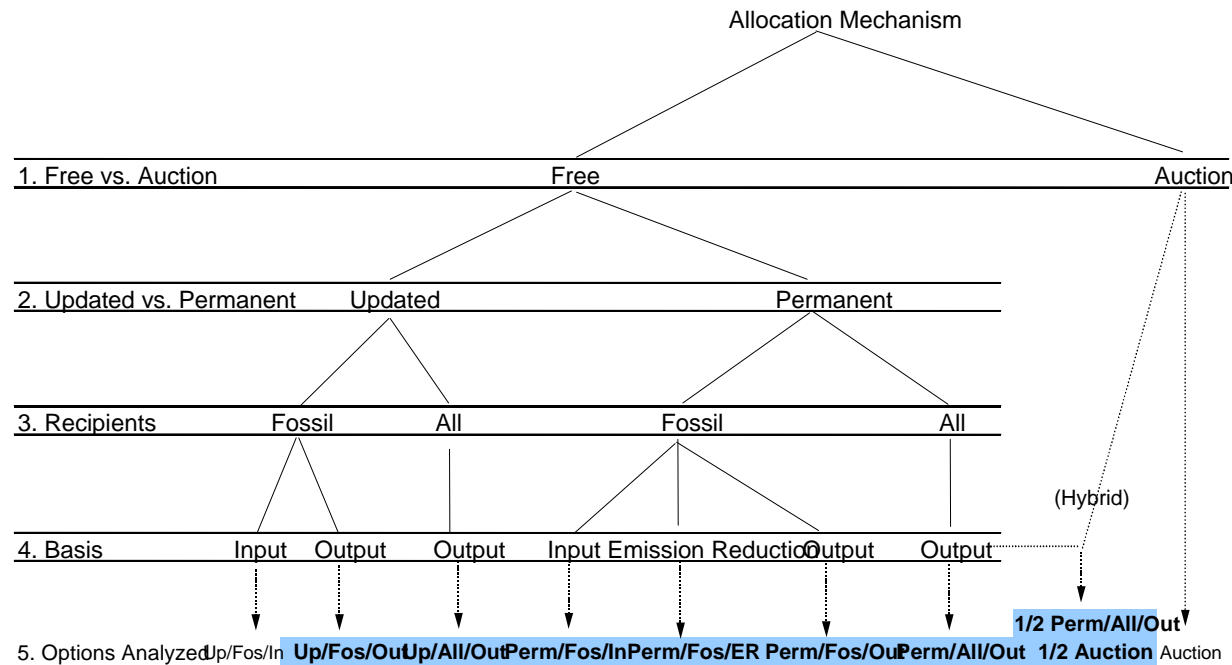
Hg Model Trading Rule: Allowance Allocations

- Overview of modified output approach, cont.
 - Heat input calculations for new units: output multiplied by 7,900 btu/kWh (cogen units also take into account steam output)
 - Creates level output-based benefits for new coal units and provides incentives for efficiency.
 - This approach would require new sources to report output data.
 - After establishing a baseline heat input (5 years) new units pick up allowances relative to their generation, and existing plants' allocations slowly decline with their share of total heat input.
 - To avoid a generation subsidy, existing units would not update their heat input numbers and new units would update only once, when they begin generating.
 - A *new source set-aside* is established for units that have entered service but have not yet been allocated allowances through the updating mechanism (5% for years 2010-2014; 3% thereafter).
 - New units would be allocated allowances relative to their emissions in the preceding control period until they have established a baseline of output data and have been included in the updating mechanism.

Allowance Allocation: Many Allocation Options and Combinations

- Auction or free
- Permanent or updated
- Input-, output-, or emission reduction-based
- Hybrids

- New units can be treated differently in permanent allocations
- Non-producers can receive allocations



Hg Model Trading Rule: Banking of Allowances

- Banking with no restriction: sources can over-control for one or more seasons and withdraw from the bank in a later season.
- Encourages earlier or greater reductions than required, stimulates the market and encourages efficiency, and provides flexibility.
- However, use of banked allowances might cause state's trading program budget to be exceeded in a given year.

Hg Model Trading Rule: Monitoring Requirements

- Stringent emission monitoring and reporting requirements ensure that monitored data are accurate, that reporting is consistent among sources – and that the emission reductions occur.
- All units would have the flexibility to install sorbent traps or CEMS
 - Some low- emitting units (≤ 29 lbs/yr) may qualify for a third option
 - Two-tiered approach requires annual stack testing if Hg emissions are ≤ 9 lb/yr and semi-annual testing if emissions are greater than 9 lb/yr, but ≤ 29 lb/yr
 - Sources may also petition to use an alternative monitoring system, under Subpart E of Part 75
- The blueprint for the Hg trading program is found in Subpart HHHH of 40 CFR Part 60.
 - Subpart HHHH includes monitoring provisions (§§60.4170-76)
- Subpart I has been added to Part 75
 - Establishes monitoring methods for Hg mass emissions
 - Similar to Subpart H for the NO_x SIP Call
- Revisions have been made to key sections of Parts 72 and 75 to facilitate implementation of the Subpart I monitoring provisions

Hg Model Trading Rule: Compliance and Penalties

- Assessed at the facility level.
- After December 31, sources have a window of time to obtain additional allowances if needed (60 days).
- Each compliance account must hold sufficient Hg allowances to cover the source's Hg emissions for the prior year's control period.
- If sufficient Hg allowances are not held, three Hg allowances for each ounce of excess emissions will be deducted from the source's compliance account for the following control period.
- Additional civil and criminal penalties also possible.